

PLANNING AND DEVELOPMENT REPORT

TO: Council **DATE:** June 24, 2003
SUBJECT: Bragg Creek Water and Wastewater Options **FILE:** 117
EXHIBITS: **Exhibit 1:** Scenario Listing
Exhibit 2: Implementation Processes
Exhibit 3: General Capital Costs of Each Scenario
Exhibit 4: Financial Considerations
Exhibit 5: Communications Plan
Exhibit 6: Bragg Creek Area Redevelopment Plan – Appendix A: Policy Background - Development Constraints

This report provides historical perspective and current context related to water quality concerns in the Hamlet of Bragg Creek. It also identifies several options for addressing the current situation and makes a recommended course of action.

BACKGROUND:

Successive water quality studies in the Hamlet of Bragg Creek have highlighted concerns with groundwater contamination and have verified that the situation became worse throughout the 1970's and 80's. The Hamlet of Bragg Creek Area Redevelopment Plan, adopted in 1998, identified these concerns and stipulated that no new development should occur in the Hamlet until comprehensive solutions to the water and wastewater problems are developed and implemented. In recent years the Provincial Government has encouraged the delivery of water and sewer utility service delivery on a regional basis. At the same time, Alberta Environment's increasing concern over public health, safety and environmental impacts related to wastewater treatment and water quality issues in the Bragg Creek area has lead the Department to support the connection of Bragg Creek to regional water and wastewater systems. All Hamlet residents and at least two water co-ops in the Bragg Creek area are on boil water orders. Since May 1st, residents and businesses have been paying about 2.5 times more per load to haul their wastewater to an approved facility.

In an attempt to involve the local residents in exploring options to address the water and wastewater concerns, Council appointed a Citizen's Advisory Committee in October 2001. The Committee developed a list of 48 recommendations after completing a local public consultation process in June 2002. The Committee found that a significant portion of the current residents of the Hamlet are resistant to changes to development and their lifestyle without some assurances that there will be controlled and sensitive development in the area. Business owners have indicated that the stigma of unsafe drinking water has had an effect on their business and support a resolution to this issue.

Based on Council direction in June 2002, staff did prepare a Request For Proposals (RFP) for the design, build, operations and maintenance of the Bragg Creek Water and Wastewater systems. Two proposals were received and to date, no decision has been made with regard to them. Staff is prepared to bring forward a recommendation based on an evaluation of the RFP's received.

DISCUSSION:

While a local solution is preferred in the short term, it appears that ultimately tying Bragg Creek in to a regional wastewater system and a regional water system may be the best option. The regional servicing model supported by the Province is based on a number of servicing nodes scattered throughout the area. Bragg Creek could serve as one of these nodes. Other communities with similar potential are Cochrane, Airdrie, Langdon and Chestermere.

There appear to be two primary considerations related to this discussion. The first and most urgent is the current public health concern for all residents and visitors to the area stretching from the Hamlet of Bragg Creek downstream into The City of Calgary. The second and certainly important consideration is the financial implications to landowners and the Municipal District.

The public health and safety concern dictates the need to take quick and decisive action to remove the threat. Alberta Environment and the Calgary Health Region have been tracking the progress of this situation and awaiting action from the Municipal District. If either agency is not satisfied with the rate or type of progress made by the Municipal District they may dictate the actions that must be taken within a timeframe that they determine and there is also a possibility of significant fines being levied against the Municipal District for breach of environmental legislation. By taking the initiative and working in partnership with other stakeholders, Rocky View can maintain a higher degree of control of the situation and the ultimate solution.

A number of options have been considered and staff recommends the development of a water servicing strategy based on the construction to provide a local water treatment plant. This would be a cost effective solution to the water issues and could represent an initial step toward providing water services to an even larger region.

Similarly, staff recommends a wastewater servicing strategy based on the construction of a regional wastewater service connection to Calgary and building in wastewater servicing opportunities for development along its route. One very strong reason for this approach is the concern that a local wastewater treatment and discharge of treated wastewater would be opposed by downstream users, including Tsuu T'ina, Redwood Meadows, other water systems upstream of the City of Calgary, and the City of Calgary. Some or all of these stakeholders would likely file statements of concern with the Environmental Appeal Board if the MD made application to construct a local wastewater treatment plant and outfall for Bragg Creek.

While the matter of Regional Servicing is becoming one of greater importance throughout the Municipal District, the water and wastewater situation in Bragg Creek has the added aspect of being one with significant health and safety concerns. As such, decisions on how to proceed to rectify this situation must occur as soon as possible. Staff recommends that these decisions and resulting actions also take place understanding the broader discussion of regional servicing as the relationship between the two matters seems to be very strong.

Staff recommend that Council support a solution to the Bragg Creek water and wastewater quality concerns by pursuing the approval, construction and operation of a stand alone water treatment plant and distribution system in Bragg Creek that could ultimately be connected to a regional system and a wastewater collection system that ties into the Calgary wastewater system via a regional pipeline. The following paragraphs generally outline the steps that would need to occur to achieve this goal. Since this report provides an overview of the process, additional reports would be necessary to provide Council with greater detail in a number of areas respecting future related decisions. In particular, there is a need to provide much greater levels of detail respecting the financing scenarios available to the MD given confirmation of the grant funding that will be available.

From an overall financial perspective, the MD is considering embarking on a water and wastewater servicing solution that will cost approximately \$28 million, with an unconfirmed amount of financial support from the Provincial and Federal governments. Approximately \$16 million will be directly related to approximately 330 homes and businesses in Bragg Creek. In Exhibit 4 there are two financial proposals that MD staff can pursue, which could garner support from either the Province alone or the Province and the Federal government. Based on the preliminary cost estimates, the regional wastewater option would be difficult for the MD to pursue without provincial and federal government funding. If Council were to agree Staff could propose one of the financial proposals.

In order to move toward funding discussions, Staff request Council endorse, in principle, the recommended water and wastewater servicing option and authorize administration to proceed with preparation of all necessary approvals applications and preparation of grant funding requests. This will involve the expenditure of budget dollars and may necessitate the use of outside professional expertise. The estimated cost associated with the latter is \$30,000. Staff notes that the Planning and Development Budget contains \$88,000 for the Springbank Water/wastewater implementation plan. Much of the work that needs to be done to develop this implementation plan for Springbank is also required with the recommended course of action in Bragg Creek and we believe that the Bragg Creek work noted here (approx. \$30,000) can be achieved using this budget allocation without exceeding the budget, given the significant overlap in the two projects.

Specific Council decisions/actions required to move the project forward at this time are:

Give direction to prepare a request to The City of Calgary for a connection to their wastewater system to permit a wastewater pipeline to be constructed to Bragg Creek;

1. Select one of two proposals to construct a local water treatment plant and distribution system, together with a local wastewater collection system, subject to the confirmation of a satisfactory funding arrangement;
2. Give direction to prepare and submit all necessary applications for approvals from Alberta Environment;
3. Give direction to pursue funding from the Province and Federal Government and the best possible arrangements from The City of Calgary;
4. Continue to communicate these steps with the key stakeholders identified in Exhibit 5.

It is important to note that once grant funding is approved, some expenditures already paid for, such as consulting fees already spent would be eligible and therefore some budget dollars could be replenished at that time to be allocated elsewhere.

From an overall planning perspective, there is an initiative currently underway in the Bragg Creek area that will facilitate infrastructure design and establish financial considerations. This initiative includes the current Hamlet of Bragg Creek Area Redevelopment Plan that is being reviewed in conjunction with the Bragg Creek Area Structure Plan (BCASP). If the staff recommendation for a servicing solution is accepted, the BCASP will not need to look as deeply into water and wastewater issues in the same manner as other area structure plans have done in the past. Other areas of concern within the BCASP process remain storm water, flooding and transportation.

An area that has no additional planning policies, generally known as the Highway 8 corridor, which is the area between Elbow Valley on the east, and Highway 22 on the west, south of the Elbow River and north of the Tsuu T'ina Reserve. This area will require some immediate reflection, and should be made a priority in the near future.

The remaining area that the regional wastewater line will affect is partially under policy direction. The Central Springbank Area Structure Plan and the Elbow Valley Area Structure Plan are both currently in place and will suffice for policy documents.

SUMMARY:

This report condenses a summary of options for servicing that have been reviewed in the last 18 months. Also attached is a generalization of implementation processes that will be need to be addressed to move this project forward, as well as a communications strategy. At this time, the estimated cost that can be identified to begin the processes that will require outside resources to facilitate can be covered within the existing Planning and Development budget. Most of these resource costs can be recovered if Provincial funding is forthcoming.

There is a clear need to make an immediate decision regarding Bragg Creek. The public health and environmental risks, as well as municipal liabilities do not permit any further delay. Provincially, and locally, there is a sense of urgency in the solution to this situation.

The preferred long range solution is Option 1. Option 1 gives the ultimate, +20 year strategy. Option 2, however, is a strong building block to Option 1. This option has the most flexibility in the short and long term, offsets capital costs to at least 20 years hence and answers the immediate concerns and needs of public health, environment and risk management for the MD, residents and visitors to the Bragg Creek area and the Province.

Options 1 or 2 are the most acceptable in meeting the needs and criteria of the Province, residents, and the MD. If Council authorizes staff to proceed with this process, additional reports related to financing and detailed work program in addition to regular updates.

OPTIONS:

OPTION 1: That Council approves subject to the development of a related financing plan:

- i) For the Hamlet of Bragg Creek, Scenario 3, a regional wastewater line to The City of Calgary; and,
- ii) For the Hamlet of Bragg Creek, Scenario 6, a regional water line from The City of Calgary to the Hamlet of Bragg Creek.

- iii) Staff making application to the City of Calgary for connection to the City's water and wastewater system, and pursuing grant funding and making immediate application for permits to undertake the project.

OPTION 2: That Council approves subject to the development of a related financing plan:

- i) For the Hamlet of Bragg Creek, Scenario 3, a regional wastewater line to The City of Calgary; and,
- ii) For the Hamlet of Bragg Creek, Scenario 5, a local water treatment plant at or near the Hamlet of Bragg Creek.
- iii) Staff making immediate application to The City of Calgary for connection to the City's wastewater system, accepting one of the two proposals for the local water treatment, pursuing funding options and making immediate application for permits to undertake the project.

OPTION 3: That Council approves subject to the development of a related financing plan:

- i) For the Hamlet of Bragg Creek, Scenario 2, a stand alone wastewater treatment plant; and,
- ii) For the Hamlet of Bragg Creek, Scenario 5, a local water treatment plant at or near the Hamlet of Bragg Creek; and,
- iii) Staff accepting one of the two proposals for the local water treatment and local wastewater plan, and pursuing both regulatory approval and grant funding.

In addition, regardless of which option is selected staff recommends also applying for permits to construct a local wastewater treatment plant should the City decline the MD's application to connect to the City's wastewater system.

STAFF RECOMMENDATION: Staff recommends **OPTION #1**.

Respectfully submitted,

Concurrence,

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Director of Planning and Development

Brian Chambers,
Chief Administrative Officer

/tg

EXHIBIT 1
WASTEWATER
Scenario 1

The scenario discussed here is a generically known as a PSDS or private sewage disposal system. These systems can be anything from a pump out tank to a sophisticated mini wastewater treatment facility. In this situation, the review was done on a Waterloo System. The Waterloo System uses a porous foam plastic to raise microbes for aerobic degradation of septic tank effluent. The Waterloo Biofilter medium utilizes a foamed plastic which forms an interconnecting, three-dimensional reticulate solid framework with high surface area, high porosity, high absorption, and dual pathways for air and wastewater. Frequently the treated wastewater can then be reused at the site for toilet flushing and the like.

INTRODUCTION:

The scenario referred to in this case is a scenario of on site wastewater solution by individual landowners. This scenario has many different opportunities from a number of companies using various technologies that seem to work if the sales brochures are true.

PRO'S AND CON'S:

PRO'S

CON'S

Installation, maintenance and operations remain the responsibility of the landowner.	Ensuring proper maintenance and peak performance requires some specialized knowledge, and professional oversight.
Treats wastewater to a higher level than conventional/traditional tank and tile field systems. Treated wastewater can be reused reducing the demand for new water.	Actual treatment level may vary with flow rates. Inconsistent results may be attained.
	System costs approximately \$15 to \$17,000 per unit, depending on landscaping and other factors. There is no funding available. The opportunities for funding from a senior level of government would be negligible.
	System costs approximately \$40 per month, which is an all-inclusive cost for remote monitoring, repairs, maintenance and sludge removal.
Safety Codes regulations allows such systems to be installed subject to special waivers.	Alberta Environment expresses a concern that these systems (and other similar in nature) are impossible to administer, track and “guarantee.”
	Highest risk factor for the landowners and the MD.
	The local health authority as being “too easy to cross contaminate” discourages dual potable and grey water systems.

SUMMARY:

Though there is a possibility that these types of systems treat effluent at a better level than is existing, there is a stronger possibility that a large number of these systems will not meet future requirements and to replace them in a short time frame will not provide the best investment for the landowner. The Municipality and Province should not be funding or encouraging these types of systems in areas that are similarly built up as Bragg Creek.

Scenario 2

The scenario to be discussed in this scenario is a local wastewater treatment plant and collection system. This type of system would be similar to what is currently available at Langdon.

INTRODUCTION:

The scenario referred to in this case is centralizing the wastewater for treatment, treating the effluent to a high standard and discharging the highly treated effluent into the environment. There is a higher degree of confidence and accountability in this type of system. For the most part, this is tried and true technology that Alberta Environment and others have used and are familiar with to a high degree.

PRO'S AND CON'S:

PRO'S

CON'S

Expandable construction and technology will allow for a larger service area.	An on-site wastewater treatment plant will have a setback of 300 meters, thus “sanitizing” land use of a large area around the plant.
Highly treated effluent can be discharged into the Elbow River.	Others, including MD residents, draw upon the Elbow River for drinking water purposes. Alberta Environment expects a larger number of statements of concerns and opposition from The City of Calgary. There is no opportunity for reuse of the treated wastewater.
	Operational costs of a smaller wastewater treatment plant are escalating, as Alberta Environment rules are increasingly more onerous.
There is an opportunity for Hamlet Grants under current programs for a wastewater treatment plant only. Collection systems are not considered part of the Grant formula.	The Hamlet of Bragg Creek is not considered a hamlet under the current definition used by Alberta Transportation that administers the hamlet grants program.
Capital costs for a <u>wastewater treatment plant and collection system</u> is approximately \$22,000 per existing customer with 75% grant funding of the wastewater treatment plant.	Capital costs for a <u>wastewater treatment plant and collection system</u> is approximately \$30,000 per existing customer without 75% grant funding. It is also noted that collection systems are unlikely to be grant eligible under current rules, only treatment plants.
Operating costs would be approximately \$45 per month per household.	Grant funding is not likely under this scenario because of the statements of concerns to be filed by the City of Calgary and because of the Province’s desire to move to Regional systems.
Landowners are “protected” from direct risk and liabilities by the MD.	<u>High risk and liabilities due to poor or failing operations management borne by the Operators and the MD.</u>

SUMMARY:

This scenario is only viable if there is a large grant from the Province for all aspects of the wastewater treatment plant and collection system. There would be a need for about 75% funding for both the wastewater treatment plant and collection system in order to make this scenario viable from a strictly capital point of view. With the increasing Provincial regulations on wastewater operations, the operations costs will start to rise significantly.

Scenario 3

The scenario discussed in this section is a regional wastewater pipeline from Bragg Creek to Calgary. This scenario has many routing scenarios, and each of these scenarios will be discussed in a different report. The concept of a regional wastewater line is the focus of this scenario. The collection system capital costs would still need to be added to this scenario, similarly to scenario 2.

INTRODUCTION:

Though this scenario has many routing scenarios, to be a truly regional wastewater pipeline, there are few routing choices. The route that services the greatest number of customers, potential and existing, would be the optimum choice in an environmental and financial review.

PRO'S AND CON'S:

PRO'S

CON'S

The route that services the greatest number of customers, potential and existing, would be the optimum choice in an environmental review.	May open areas that have limited planning policies to control development pressures.
It is expected that this scenario would receive the greatest financial and environmental support from the Province, The City of Calgary and the MD.	Large initial capital outlay of approximately \$10,000,000 or \$30,300 per existing user.
The risks and liabilities associated with operating the wastewater line are far <u>less than</u> the risks associated with operating a wastewater treatment plant or private sewage disposal systems.	Some technical considerations due to the effluent's time in the pipeline.
Will allow areas that have planning policy to proceed in an environmentally sensitive manner.	(Information item, not really a con.) Pipeline operations are generally lower than a wastewater treatment plant and in this case, the costs would be around \$45.00 per month.
It is expected that new development will bear the lion's share of capital costs.	
Other users could be connected such as Redwood Meadow's and the Tsuu T'ina Nation.	
Connection would be mandatory for new development.	
Existing users could be grand fathered until such time as necessity deems a connection.	
Potential number of users could lower capital costs to as low as \$5,000 per connection.	
Potential number of users could lower the operating costs to as low as \$45 per connection.	
Allows the highest potential for development and tax base growth in accordance with policies in an environmentally sound manner.	

SUMMARY:

For this scenario, optimal pipeline routing should be the major consideration. The business of wastewater and financial support by the Province will be on the best value for the dollar and not on political necessity. Further of all of the scenarios investigated to date; this scenario has the most acceptable risk factor for the MD. This is the most likely to be financially supported by the Province, bearing in mind their recent announcements, and connection support from The City of Calgary as it affects their drinking water. The obstacles such as the lack of planning policy and potential lifestyle changes are obstacles to address through planning policies and Council decisions. Change is an ongoing process that needs to be managed not avoided.

WATER

Scenario 4

The following scenarios are for water services in the Hamlet of Bragg Creek. The first scenario to discuss is the continuation of local wells.

INTRODUCTION:

In the Hamlet of Bragg Creek and generally in the area, there are limited areas where water wells are viable. The geography of the area is such that groundwater is scarce in some areas. Next to the Elbow River area, in the flood plain, most wells are relatively shallow but there are some deeper wells. Most wells are considered “under the influence of surface water” by Alberta Environment for the purposes of treatment. This introduces a different regime of water treatment because it is susceptible to contaminants and pollutants from outside sources.

PRO’S AND CON’S:

PRO’S

CON’S

Private wells require no investment by the MD.	Water wells owners that have poor quality or quantity of water are without recourse to local or provincial finances to offset these costs.
	Besides wastewater effluent aggravating the raw water quality, other sources of contaminates will still be present. Still drinking untreated water.
	The local health unit may still require Boil water orders.
	High risk and potential liabilities to the MD and the various well owners.
	Unable to provide development potential envisioned in the Hamlet Redevelopment Plan and for future growth scenarios.

SUMMARY:

This is basically a do “nothing strategy” which with the knowledge available is not a sound strategy that will prevent incidents similar to Walkerton on a smaller scale. The Bragg Creek Community has a conflict between the need to maintain a lifestyle they are accustomed to and pressure to allow more development so that others may enjoy a similar lifestyle. Using the major water/wastewater problem as a means to prevent further development, a dysfunctional situation has been set up with serious consequences to the larger community of the MD of Rocky View. This scenario is not considered to be a scenario, even in the short term.

Scenario 5

The following scenario for water in Bragg Creek is a local water treatment plant and distribution system. This scenario could be considered in conjunction with a longer-term scenario considered in Scenario 6.

INTRODUCTION:

There are currently two water coops in the area of Bragg Creek. Both of these coops are under pressure from Alberta Environment to upgrade to meet current guidelines. As guidelines change, more capital upgrades as well as operational upgrades will be required. Businesses in the Hamlet are suffering from a high cost of hauling water, of poor publicity and perception that the water that is served is “dangerous.” Similar to the local wastewater plant discussed in Scenario 2, a local water treatment plant also has similarities between pro’s and con’s.

PRO’S AND CON’S:

PRO’S

CON’S

There is at least one existing water treatment plant and some distribution in place currently.	The age and value of the existing water treatment plant and distribution system is unknown, but information available would lead one to believe that the systems are currently overwhelmed with issues.
Upgrades will include fire hydrant capabilities.	Will provide some additional development potential.
Professionally managed on a full time basis.	Capital expenditure to upgrade a water treatment plant is approximately \$3,500,000. Large Provincial Grants are necessary.
Some ability to expand for additional developments.	Capital expenditure to upgrade and provide a water distribution system is approximately \$6,300,000. Large Provincial Grants are necessary.
A water distribution system can be expanded to meet different demands.	Further capital upgrades will be required to the water treatment plant as Alberta Environment changes regulations.
Water licenses exist and can be transferred to the MD.	Operational costs will continue to climb as Alberta Environment changes regulations for operations.
Better risk and liability management is available to the MD under this scenario.	
Existing water coop would be “relieved” of immediate capital upgrades and share that cost with others.	

SUMMARY:

This scenario has many opportunities to be a best value for the money scenario. The water system can remain fairly static for a period of time; however, the water flows in the Elbow River would indicate that there might not be enough over a longer period of time. Additionally, the best control of development is the control of water and the wise use of that scarce resource. This scenario would be a good scenario for at least in the 20 year horizon and possibly longer.

Scenario 6

This scenario will address a water line from The City of Calgary to the Hamlet Bragg Creek.

INTRODUCTION:

This scenario is envisioned to be a regional water line in the same context as the regional wastewater line. The source of the water would be from The City of Calgary, and the routing would be such to maximize the number of potential customers for the future. The water distribution system costs also need to be added to this scenario.

PRO'S AND CON'S:

PRO'S

CON'S

No water treatment plants, other than water storage facilities.	Large capital outlay.
Capital outlay can be done over a longer period of time.	Development pressures along the chosen route.
Existing water treatment plant can be used and modified when a regional water line is in place.	Higher energy costs to pump water uphill.
Fulfill development pressure in areas that have the policies in place.	
Capable of large service area and numbers.	
Best use of water from a single source.	

SUMMARY:

The region water line scenario is perhaps the best overall of all of the scenarios on water presented, however, the large capital expenditure to build this system immediately makes this scenario the best only in the long term. The regional water line can be staged over time.

EXHIBIT 2

IMPLEMENTATION PROCESS

When the preferred option for the Bragg Creek water and wastewater project has been selected, the following actions will be undertaken:

Alberta Environment Processes:

The preferred option will require Alberta Environment permits, approvals and licenses for both the water and wastewater projects. And will require that firm design scenarios be put forward.

For local water treatment an extraction permit from the Elbow River is required. The water must then be treated, stored, and the distribution area or service area proposed. The MD has received two detailed proposals for local water treatment, and it is proposed to accept one of these options and request the selected Proponent to make application for the required permits.

For connection to the City of Calgary water supply it will be necessary to acquire permits to construct, operate, re-treat the water (if necessary) and distribute the water. The major task is to obtain approval to the routing of the pipeline and the location of any retreat facilities. Neither of the two proposals received to date has dealt with using a City water connection, and this work can either be added to the selected proponent or a new project can be created with a competitive proposal call made for the design, construction and operation of the pipeline.

For a local wastewater treatment project, significant investigation would be required regarding the environmental impacts of the discharge into the Elbow River. This will be particularly demanding because of the near certainty of going to an Environmental Appeal Board hearing. Statements of concern by any affected person or body will need to be answered in detail. For this reason it is recommended that a specialist environmental consultant would be retained immediately if this option is chosen, before any work on designing a plant is commenced. It is likely that the MD would be involved in a one to two year process to get approval to construct a plant with no certainty regarding the outcome. For this reason, staff are not recommending the construction of a local wastewater treatment plant with discharge to the Elbow River.

For a wastewater line to Calgary, the Alberta Environment process involves obtaining permits for the wastewater line construction and operation. It is suggested that such a pipeline would be constructed through a design, build, operate proposal call which would not proceed until a successful application has been made to the City for connection to the City wastewater system.

City of Calgary Processes:

Both regional water and wastewater options has to involve connection to the City of Calgary's existing systems. The City's current policy on water and wastewater outside of the jurisdictional boundaries limits the access to these services unless environmental protection of the City's water sources is an issue.

The MD will have to make formal application to the City of Calgary, after review from the Inter Municipal Committee for connection to the services, whether water or wastewater. At this time, a general number of connections or quantity of service, and land uses should be identified. As well additional engineering work will be required to ensure that the specifications meet with the highest standards. City Staff will then move the application through the City bureaucracy to their Operations and Environment Committee with their recommendations. This Committee will provide recommendations to City Council similar to Staff's or with changes. City Council will approve the connection in principle with conditions and additional changes or review. In the end, the City will only enter into an agreement with the MD of Rocky View and generally does not enter into agreements with developers or private individuals that are outside their jurisdictional boundary. This process can be dealt with in approximately 3 to 6 months depending on the services required.

Federal Processes:

In most cases, regardless of the options selected, the Fisheries and Oceans Department of the Federal Government will be involved. Whether it is a discharge of effluent into the Elbow River, withdraw of water from the Elbow River, or a river crossing with infrastructure Federal approvals will be required. The Federal process can be the longest of them all, and generally takes a minimum of 12 months, depending on the complexity.

Alberta Transportation Processes:

Alberta Transportation processes actually covers two areas, one is a potential pipeline routing along Highways 22 and 8, crossing or routing along Highway 758 through Bragg Creek, the bridge at Bragg Creek, and most importantly any grants or other financing from the Provincial Government.

At this time, the local office of Alberta Transportation has reluctantly agreed to allow Highway 22 and Highway 8 as routing for any pipeline. With the new Highway 8 Functional Study available, the routing may be more problematic and additional right-of-way may need to be acquired. In any case, working easements will be required. There will, or should be a service road acquired on both sides of the Highway 8 but that remains in the future. As for Highway 758 through Bragg Creek, the local office is willing to work with the MD in addressing this issue.

The financial support by Alberta Transportation is not evident under any of the current funding schemes that are available to the MD. It is anticipated that there will be special funding formula set up by the Province, but administered by this Department. Applications for funding will be made through this Department, to ensure that no funding options have been left unaddressed.

MD Processes:

Besides being aware and following the above processes, the MD will need to finalize some other processes. Depending on the choices made, the MD can use existing information and processes already in the works or completed to begin.

The Bragg Creek Request for Proposals evaluation can be finalized in a relatively short period of time. However, because of the unknown financial grants, a final agreement cannot be reached. A negotiation process to review the work that will be required, a fee for that work if the process cannot be completed will be finalized for Council's consideration. This work and cost can be recovered through the grant process if it is completed.

As it stands now, the Bragg Creek Request for Proposals has addressed the following:

- Local water treatment plant
- Local water distribution system
- Capital and operations of the system.
- Local wastewater treatment plant
- Local wastewater collection system
- Capital and operations of the system.

It remains to choose from the two proponents which of the submissions best meets the Request for Proposals and brings best value for the money to the project. This can be done in about 8 weeks. The winning proponent will need to work with the MD to fulfill certain parts of the application process and answer the necessary engineering details.

Another part of the process is to address the local water coops and their continued existence, upgrades to treatment and distribution, water licenses, and other details. This is a fairly straight forward process, depending on the choices by Council.

A process will need to be put in place for any pipelines to or from the Hamlet of Bragg Creek. Depending on funding and routing opportunities, the first review of this pipeline would be to put out a proposal call for a design build of pipeline or pipelines. This process will take about 4 months minimum and will be necessary if a choice for any of the pipeline options is made.

Further, there will need to be internal changes to the MD structure to address this additional infrastructure. Issues such as billing, rate setting, follow up, financing, tracking and monitoring, environmental and other issues will need to be dealt with in accordance to regulations and standards. Whether contracted out, or in-house, these issues will come to the forefront in a short period of time.

EXHIBIT 3

GENERAL CAPITAL COSTS EACH SCENARIO

The capital prices noted in this table are general, may change depending on more detailed geotechnical information, and with construction material changes. The prices are for comparison purposes and are largely dependent on the number of connections.

Scenario #:

General Capital Cost:

Comments:

Scenario #:	General Capital Cost:	Comments:
Scenario 1 private wastewater	\$16,000 per unit	No grant funding, 100% on the landowners.
Scenario 2 local wastewater treatment plant	\$22,000 to \$30,000 per household	Depending on grant formula that may or may not be available. Dependent on development pressures over the long term.
Scenario 3 regional wastewater line to Calgary	\$10,000 to \$30,000 per household	Depending on grant formula that may or may not be available. Dependent on development pressures over the long term.
Scenario 4 local water wells	\$12,000 to \$15,000 per household	No grant funding, 100 % on landowners, no treatment.
Scenario 5 local water treatment plant	\$15,000 to \$30,000 per household	Depending on grant formula that may or may not be available. Dependent on development pressures over the long term.
Scenario 6 regional water line from Calgary	\$17,000 to \$32,000 per household	Depending on grant formula that may or may not be available. Dependent on development pressures over the long term.

There is a strong probability that there will be a grant formula given for the Bragg Creek solution. The Province has been promoting that the MD bring forward a solution for resolution as soon as possible.

EXHIBIT 4

FINANCIAL CONSIDERATIONS

There are three main funding sources for the required capital expenditures for water and wastewater servicing for Bragg Creek. These sources are:

Provincial Grants and Loans

Federal Grants

Users (MD, Utility Users and Developers)

[City participation may come in the form of concessions in joint applications to the Province for funding, design coordination and technical input]

MD, UTILITY USERS AND DEVELOPERS

The Bragg Creek Community Advisory Committee put forward that the community is willing to pay up to \$100 per month per household, inclusive for operations, capital and debt servicing. Financial projections prepared by staff show that grant funding in excess of 90% for all capital works would be required to achieve this with the present 330 homes. In addition the normal rules that are applied by the Province are that only treatment plants are grant eligible, not distribution and collection systems. In Bragg Creek approximately \$12 million is required for collection and distribution, none of which would be normally eligible for grant funding.

Staff recommends that Council support a consistent utility rate structure across the MD. While the rate would be consistent it would also differentiate between businesses, residential and institutional rates in order to truly reflect a user pay policy. Water meters would also be mandatory and therefore users would pay the same rate, but their bills would differ according to the water consumed.

The MD will need to debenture borrow a portion of the capital requirements, regardless of the funding formula of the other levels of government. The cost of this debenture funding must be borne by the users. As new users come on stream that will greatly assist in meeting the debt servicing costs.

FEDERAL GRANTS

Federal grants would only be available through the Infrastructure Canada-Alberta Program, where one third of the capital costs would be from the Federal Government. At this time, only Provincially and Federally sponsored projects are being accepted. There are certain costs that are not eligible for this program, and will be borne by the MD.

There is an opportunity through the Federation of Canadian Municipalities to access some capital funds. This is limited to a maximum of 15% and may disqualify the project from other grant funding.

PROVINCIAL GRANTS

Provincial grants and loans would be available through special Cabinet funding for regional infrastructure. Infrastructure Canada-Alberta Program grants do not have a loan component to them. Since the Hamlet of Bragg Creek does not fit the criteria for Alberta Transportation regarding funding, the regular Hamlet grants are not available for any of the Hamlet's capital requirements. Besides, the Hamlet grants do not fund collection or distribution systems, only treatment plants.

Funding of the Bragg Creek Water and Wastewater servicing will require the Province to make a special funding arrangement with the MD, whereby the Province would advance the MD a mixed grant and no interest loan in order to allow the project to proceed. A few scenarios for this have been attached, and the financial implications are as follows:

Proposal 1:

Water: 75% Grant funding for the complete water system plus 10% repayable loan. MD will debenture borrow the remaining 15%.

Wastewater: 75% Grant funding for the complete collection system plus 25% repayable loan for the regional wastewater line.

Proposal 2:

Water: 66% ICAP for the complete water system, the MD will provide the remainder through debenture borrowing the remaining 34% plus the ineligible costs.

Wastewater: 66% ICAP for the complete wastewater system, including the regional system, the MD will provide the remainder through debenture borrowing the remaining 34% plus the ineligible costs.

The order of magnitude costs to the users are as follows:

Scenario 1: Average monthly invoice = \$120

Scenario 2: Average monthly invoice = \$150